

Claims

- [c1] 1.A backlight source disposed under a display panel, the backlight source comprising a plurality of parallel U-shaped lamps or call C-shaped lamps, each of the U-shaped or C-shaped lamps having an inner surface and an outer surface and comprising a high voltage electrode and a low voltage electrode, the high voltage electrodes being disposed equally on two sides of the display panel.
- [c2] 2.The backlight source of claim 1 wherein the backlight source is installed in a direct-type backlight panel unit.
- [c3] 3.The backlight source of claim 2 wherein the direct-type backlight unit comprises a diffuser disposed between the display panel and the plurality of the U-shaped lamps for scattering a light source generated by the plurality of the U-shaped lamps to the display panel, a light diffuser plate disposed between the diffuser and the plurality of the U-shaped lamps for transmitting the light source to the diffuser, and a reflecting plate disposed under the plurality of the U-shaped lamps for reflecting the light source to the light diffuser plate.
- [c4] 4.The backlight source of claim 3 wherein the direct-

type backlight panel unit further comprises a housing disposed under the reflecting plate for surrounding the reflecting plate, and a bezel for assembling the display panel and the backlight source.

- [c5] 5.The backlight source of claim 1 wherein the U-shaped lamp is a cold cathode fluorescent lamp (CCFL).
- [c6] 6.The backlight source of claim 1 wherein the U-shaped lamps alternately face two opposite sides of the display panel.
- [c7] 7.The backlight source of claim 6 wherein the inner surface of the U-shaped lamp is adjacent to the inner surface of an adjacent U-shaped lamp.
- [c8] 8.The backlight source of claim 6 wherein the outer surface of the U-shaped lamp is adjacent to the outer surface of an adjacent U-shaped lamp.
- [c9] 9.The backlight source of claim 1 wherein the backlight source further comprises a power supply for providing current and a control circuit electrically connected to the power supply for driving the backlight source.
- [c10] 10.The backlight source of claim 9 wherein the control circuit comprises at least one inverter electrically connected to the high voltage electrode and the low voltage

electrode of the corresponding U-shaped lamp.

- [c11] 11. The backlight source of claim 10 wherein the inverter comprises a direct current/alternating current (DC/AC) inverter, a pulse width modulation (PWM) inverter or a series resonant parallel loaded (SPRL) inverter.